

PATHWAYS

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AN IMPORTANT ASPECT OF ENVIRONMENTAL STUDIES

Recently there was an article in *Hindustan Times*, highlighting the pathetic condition of many of our monuments. The author felt that the solution to the problem was to make the student community aware of our historical heritage.

Long before this article was written, we, in *Sardar Patel Vidyalaya*, have made 'environmental awareness' a part of our school programme. Our conservation club has been one of the most active groups in this city. We have also realized that the study of environment includes many aspects—one of them is the preservation of historical monuments.

It was decided to set a project in History for the students of Class VIII—the study of an unknown monument near the child's house. As is our practice, a project outline paper with instructions was given in December 1984. By the first week of February, the finished projects started coming in, some of them exceptionally good. In some cases, a group of three or four children had worked together.

There was a major difference between this project and the earlier one on Humayun's Tomb.

In the latter the Humayun's Tomb was used as a take-off point to study a variety of related themes. Further it is a well-known tomb and a lot of literature is readily available.

On the other hand, the objective of this project on unknown monument was to draw the attention of the students to the condition of hundreds of monuments scattered around Delhi—uncared, unprotected and unwanted. The focus was on protection and preservation of our national heritage, such as historical monuments, as part of the study of our environment.

Before the work on the project started, a slide show on Delhi and one of the cities of Delhi—Jahanpanha, was presented to Classes VII and VIII. This slide presentation had been prepared by the Environment Group of the India International Centre. I would like to share the reactions of two class VII students.

Mandakini Dubey: The mindlessness of institutions such as the DDA is amazing. We should not have the views and surroundings of the monuments crowded with settlements and colonies. My friend and I have, after seeing the slide show, tried to stir up some feelings but

nothing is working out. Perhaps you should show the slides to our colony! The show was very unnerving and informative."

Nihar Shah : "What we saw in the show, unfortunately, is a part of this world and we all truly wish it was not! It was a show which widened our eyes to the slowly decaying world around us."

Apart from studying the monument from inside and outside, the children had to visit the Archaeological Survey of India to know the details such as the name of the builder, the date of construction etc. Most of the structures were in ruins and had no inscription to give any details. In fact, for many, even the ASI has no records or clues. So the unearthing of information became a challenge to the ingenuity of the child. They had also interviewed the caretaker, if there was one, and the people who had lived in the area for many years.

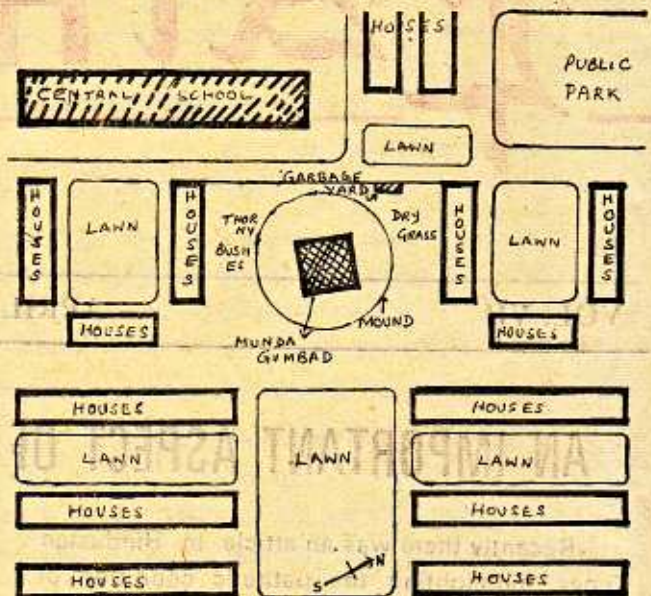
Rahul Walia almost produced a thesis on *MUNDA GUMBAD*—with an index, a series of illustrations and a list of acknowledgements! Best of all, he had given suggestions for cleaning up the area and for protection and preservation of the tomb done in two stages. His proposals are :

1. In the first stage the Municipal dumping yard to be removed and the open area around. Munda Gumbad should be properly landscaped with paths for informal morning walks.
2. In the second stage, Munda Tomb has to become the Centre of a big park—only a few houses are to be demolished (as shown in the two maps).

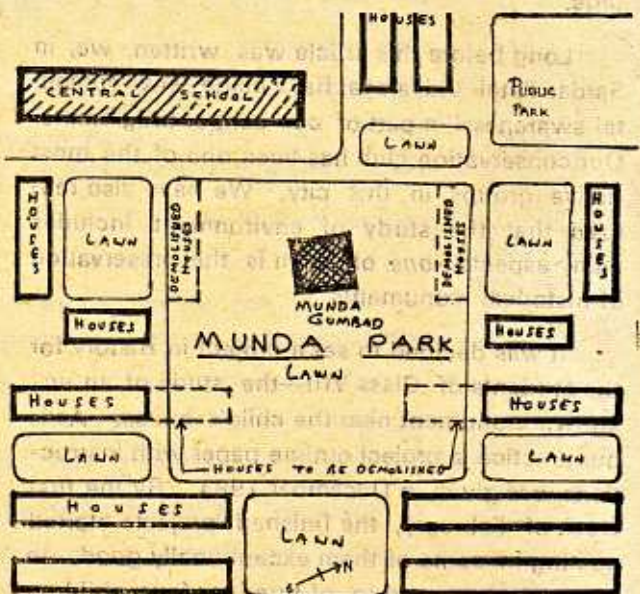
In a lighter vein he had also made a maze—a puzzle for the uncaring ASI officials, so that at least they could grope their way to the monument and have a look!

Deepika, Aparna and Sonal had taken photographs—specially of the cluster of dilapidated buildings in the Siri Fort area; the ugly modern carvings (!) and inscriptions like "I love you". They had specially concentrated on the

"damage and preservation" aspect and say: "We think most of the monuments in Delhi should be preserved since they are our heritage. If the space problem reaches its limits, then only should we make offices such as the ones they have opened in Safdarjang Tomb and Purana Quila."



The "MUNDA GUMBAD" site as it is today.



The suggested improvement in the site.

(Contd. on page 14)

Some Interesting Revision Techniques For Middle School Mathematics

"All right ! Take out your arithmetic books. Work out the remaining sums in exercise 144. Finished ? Exchange your books. Now, the answer to sum no. 20 is... .."

Sounds familiar, doesn't it ? "After all" the teacher thinks, "they know this matter. It's only a question of drilling, and I'm not going to waste my time ticking off all those sums."

Most of us realise that the process of drilling can be as painful for the students as it is for the teacher. But how can we adapt these drilling sessions so as to make them interesting ? One answer to that is—use **surprise**. Here are a few different techniques I have often used in the classroom, with success.

After teaching a particular topic using examples and some individual work, one could try postponing the completion or the drilling exercises for a fortnight or so. This provides a breather. Then the students can be given a short class test to evaluate how well they know that topic. Common class difficulties surface—forgotten formulae, statement problems. Then the drilling could begin in earnest.

Answer Race : A set of problems is given for which the answers are required in the shortest possible time. This result-oriented method works well with 'mechanical' topics. Excited by the 'race' atmosphere, children exercise their mental agility to arrive at the correct solutions. Variations of this can be adapted to specific topics being revised. For example,

Statements. In problems involving the use of the unitary method, clear statements are important. A 'statement race' can be held in which students do not work out the problem, merely writing out the statements correctly, following the logical steps. (The sums can be completed later on).

Logic test : Pupils are presented with a set of problems. An answer is given, and by inspecting the problems they have to select the problem to which the answer belongs. For example, an answer of Rs. 119 could only belong to a money problem in which the question requires not a fraction or a percentage but a number close to this amount as the answer. Logically it cannot belong to the Simple Interest sum which requires them to find the simple interest on Rs. 50 for 6 month, at 2%.

After matching answer to sum, the children should be able to explain 'why.'

Troubleshooting : This is a method of helping the student to analyse his own work. It can also be done on worksheets previously prepared by the teacher. This technique helps the pupil answer the question, 'Why is this sum still wrong ?'

The student goes through an incorrectly worked out problem to isolate his mistakes and circles them with a remark. (Comp. for computation errors. Similarly—mult., add., sub., div., sts for statements etc). Students feel a sense of satisfaction as they locate their own errors and realise why the sum is wrong. While they are doing this, the teacher can be paying extra attention to the really weak cases.

Alternatively, the teacher prepares a worksheet in which the problems are worked out wrongly, each containing either a common class mistake or an unnecessarily labourious method of work. The students love playing teacher as they go through the worksheets, correcting the sums.

Sample worksheet problem. In how many days can 4 horses eat as much fodder as lasts 6 horses for 2 weeks ?

Solution—6 horses can eat fodder for 14 days.
 1 horse can eat the same fodder
 14/6 days.
 4 horses can for
 $(14/6 \times 4) = 28/3$ or $9\frac{1}{3}$ days.

The student has to circle the mistakes in lines 2 and 3 and do the sum correctly.

Other Revision exercises

Area—Are you having your house painted? Curtains bought? Table varnished? Find out how much it is costing your parents per sq. ft.

Speed—What is the distance from your front door to the street corner? How long does it take to get there? On foot? Using transport? Calculate your average speed

Percentage—Percentage in each subject group? How many marks do you need to reach 65%? Averages compared. Find out what percentage of your father's salary is spent on school fees, books etc.

Making Data Lists (Profit and Loss/Work and Time)

Starting from the data of a problem work out as many facts as you can

Example—A person spend 12% of his income in travelling, 8% in buying books, and another Rs. 750 on odds and ends. If he saves 5%, what is his income? If his expenditure on books goes up by 50% how much does he save? If he gets a raise of 15% how much more can he spend on travelling in order to keep his savings constant?

Complete the table:

Item	Actual Amount	Percentage
Books		8%
Travel		12%

General Note: In quite a few of these revision techniques, it may appear that the students are not actually working out the problems. In some cases it is unnecessary. I believe. However, completion of the work can always be given as back-up homework.

LESLIE D'GAMA

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Where Am I Hidden?

Biology students studying adaptations in the animal world learn how protective colouration helps an animal to avoid its enemies. The game described below will involve students in a practical exercise which will help them understand the concept even better. If you can't spare a Biology period, perhaps it could be carried out during some activity or games period.

Materials: Potatoes, beans, carrots or other vegetables; white paper or paint to cover them; plasticine, coloured cellophane paper, cotton, glue, paints, toothpicks.

The class is divided into two or more teams. Each is allotted a work area. These areas must not be too close together. Each team must not be able to see what the others are doing.

The vegetables are painted white (or covered with white paper) on the previous day. Each person in a team is given a vegetable. He or she must use it to form the body of an 'animal' which can be hidden or camouflaged in the natural surroundings of their own work area. The other parts of the 'animal' may be made out of toothpicks and any available material found in the area. After making the 'animal' the student puts it in a place where its colouration or form helps it blend into the surroundings. A time limit is set by the class teacher for this part of the game.

The teams then exchange places and try to find the hidden 'animals'. Obviously the best team has done its work well and the fewest of its 'animals' are found. Participants can be asked to point out where they have placed the undiscovered 'animals'. Discuss:

- I. Why some of the 'animals' were found and others were not?
- II. In what other habitats would your animals be well-hidden?

Name some animals you know that are protected by camouflage.

Name some animals that are not protected in this way. How do they defend themselves from predators?

Conversation Exercises

In spite of years of study in our best schools, many of our students are hesitant to speak in front of strangers, and find admission interviews a frightening experience. Admittedly, with tight teaching schedules, teachers of language may not find time to give their students individualised practice in the art of speaking. The quickest way of learning to speak is to practise and practise speaking with such frequent repetition as to form habits of correct expression. This is much more important than the learning of descriptive grammar and vocabulary. It is possible to devise little 'conversation exercises' which students can practise between themselves. By providing students with a large number of ready-made conversations, much waste of time can be avoided and many structures can be practised. Obviously this must start at an early age and should not be resorted to only in the last few years of schooling.

Some sample patterns are given in this article. These may be typed on cards and kept ready for use whenever students finish class assignments a few minutes early. Pair the students, putting, if possible, one who is fluent in the language with a partner who needs some help. Each pattern may be practised a number of times using the variations suggested. The partners may exchange roles so that practice in all the sentences is had by each of them. It might be a good idea if you could listen in to one round. If you can, do provide students with a tape recorded sample of the conversation they are to practise. It might then be more convenient to let the whole class hear one "conversation" and follow it up with practice.

Once you have followed how these patterns are made, you can make up many others on your own. Thus your students will have practice in using a number of grammatical forms, together with the correct expression, intonation and pronunciation. If you can draw cartoons or caricatures these will enliven the activity and may suggest other situations. Why not try this in Hindi also?

SAMPLE : 1 Aim : Practising the Present Continuous Tense.

- | | |
|--|--|
| A : Is <i>Karan</i> very busy just now ? | A : Is <i>Alka</i> very busy just now ? |
| B : Yes, <i>he</i> is. He's <i>having breakfast</i> . | B : Yes, <i>she</i> is. She's <i>studying</i> . |
| A : And <i>Mohan</i> ? Is he <i>having breakfast</i> too ? | A : And <i>Seeta</i> ? Is she <i>studying</i> too ? |
| B : No, <i>he</i> isn't. He's <i>shaving</i> . | B : No, <i>she</i> isn't. She's <i>writing letters</i> . |

For further practice :

- i. Use different names. Use 'he' or 'she' as needed.
- ii. Use these verbs : working teaching playing
 reading walking knitting

SAMPLE 2 : Aim : Practising the Past Continuous Tense

- | | |
|--|--|
| A : I was very busy <i>last night</i> . | A : I was very busy <i>yesterday evening</i> . |
| B : Were you ? | B : Were you ? |
| A : Yes, I <i>was studying English</i> . | A : Yes, I <i>was digging the garden</i> . |
| B : Really ? | B : Really ? |

For further practice :

Use these phrases instead of those in italics.

- | | | |
|---------------------|-------------------------|-----------------------------|
| i. this afternoon | ii. watering the garden | taking my driving test |
| yesterday | lawn | having a music lesson |
| yesterday afternoon | doing the washing | applying for a job |
| morning | ironing | putting the children to bed |
| on Sunday | accounts | answering an advertisement |
| Monday | my homework | preparing a lecture |
| Tuesday afternoon | | |
| evening | | |

SAMPLE 3 : Aim : Practising the Simple Future Tense

- | | |
|---|---|
| A : What are you going to do <i>tomorrow evening</i> ? | A : What are you doing <i>this evening</i> ? |
| B : I'll probably <i>stay at home</i> and <i>learn some English</i> . | B : I'll probably do <i>my homework</i> . |
| A : Wouldn't you like to <i>go out</i> instead ? | A : Wouldn't you like to <i>visit the Jains</i> instead ? |
| B : No, thank you. | B : Yes, I would, please. |

For further practice :

Use these phrases instead of those in italics.

- | | | |
|------------------|------------------------|--------------------|
| i. tonight | ii. work in the garden | watch TV |
| tomorrow mornnig | do some writing | play the sitar |
| this afternoon | read a book | go to the pictures |
| at the week-end | answer some letters | paint my room |
| | pay some bills | pick some fruit. |

SAMPLE 4 : Aim : Practising the use of "May" and "Can"

- | | |
|---|---|
| A : May I <i>use your typewriter</i> , please ? | A : May I <i>go to the dance</i> , please ? |
| B : Yes you may. | B : Yes, you may. |
| A : And can Ram <i>borrow your bike</i> . | A : And can Leela come too ? |
| B : No, he can't. | B : Yes, she can. |

For further practice :

Use these phrases instead of those in italics.

- | | |
|---------------------------|---------------------------|
| i. borrow your typewriter | leave school <i>early</i> |
| use your bike | work <i>early</i> |
| safety razor | have a holiday |
| take the dog for a walk | go to the concert |
| | party |

SAMPLE 5 : Aim : Practising the use of 'ought'

A : I'm going to *buy a motor bike*.

B : I don't think you ought to.

A : Why not ?

B : Because it's *dangerous*.

A : I'm going to *have a nap*.

B : But you mustn't.

A : Why not ?

B : Because it's *lazy*.

For further practice

Use these phrases instead of those in italics.

i. learn to fly

go climbing

skiing

play poker

have another swim

drive very fast

smoke more

stop working

ii. expensive

unhealthy

extravagant

SAMPLE 6 : Aim : Practising : "I'd like to, but I can't"

A : Are you going to *the theatre tonight* ?

B : I'd like to, but I can't.

A : Why not ?

B : Because I *haven't the money*.

A : Are you going to *play cards this evening* ?

B : I'd like to, but I can't.

A : Why not ?

B : Because I *have't got the time*.

For further practice :

Use these phrases instead of those in italics.

i. meet Archana

Kumar

visit Granny

Mr. Malhotra

the pictures

concert

dance

have a walk

swim

drink

bath

listen to the radio

come for a ride

on my motor-bike

ii. this morning

afternoon

today

tomorrow

on Monday

Try simpler patterns for younger children, like these.

SAMPLE 7 : Aim : Practising plurals

A : What are you ?

B : I'm an *engineer*.

A : Is Mohan an engineer too ?

B : Yes, we are both *engineers*.

A : What are you ?

B : I'm a *doctor*.

A : Is Rita a doctor too ?

B : No, she's a *writer*.

For further practice :

- i. Use different names
- ii. Use these words instead of those in italics.

dentist	dentists
professor	professors
singer	singers
teacher	teachers
sailor	sailors
artist	artists

SAMPLE 8 : Aim : Practising the use of 'a' and 'an'

A : What are you ?

B : I'm a *dentist*.

A : Is Mr. Sharma a dentist too ?

B : No, he isn't. He's a *doctor*.

A : What are you ?

B : I'm a *teacher*.

A : Is Rita a teacher too ?

B : No, she isn't. She's a *clerk*.

For further practice :

- i. Use different names.
- ii. Use these words instead of those in italics.

typist	artist	filmstar
nurse	painter	telephone operator
astronomer	carpenter	architect
headmaster	engineer	mining engineer

A study of your text-book of grammar will help you identify a number of such items on which you can then prepare similar exercises. Remember to also include certain common forms of everyday spoken language like these :

hasn't, haven't, wouldn't etc.

The use of words like 'please' and 'thank you' can also be reinforced in such exercises.

YOUR ATTENTION PLEASE

PATHWAYS is issued four times a year—in February, April, August and November. The annual subscription is Rs. 8/= only. Please send this in as a Money Order or Cheque (add outstation charges please) to the Educational Planning Group, 4 Raj Niwas Marg, Delhi-110054. This entitles you to all the four issues of that calendar year. Remember to include your complete and correct postal address, including the PIN Code. Back numbers can be obtained for Rs. 2.50 each (including postage).

PLAYING WITH PAINT

by Meera Govil

Painting is an experience which all but the very youngest children can enjoy.

First they will want to explore it—to touch, smell and taste. Then they will enjoy putting colours on paper. As they grow and develop they will discover colour, shape and pattern and will begin to master the skills of eyes and hands needed later to help with reading and writing. They will also find in painting the chance to become relaxed and absorbed in something over which they have total control.

Paint can be used almost anywhere; the floor, a table, an easel or a worktop; but as small children do not always keep paint in the 'right' place we may have to protect our floors and furniture. Newspaper covered with polythene will keep paint off most surfaces, and overalls (cut down pyjama jackets or shirts of older children, for instance) will keep the children's clothes clean. It is probably wise to keep clear of non-washable curtains and walls, though paint washes out of clothes well, as a rule.

How To Set About it

The paint is best mixed nice and thick with a separate brush in each pot. Small hands and eyes cannot cope with the hard blocks of wishy-washy colour which we still find in traditional paintboxes. Jars of ready mixed paint are lovely but powder paint is just as good and cheaper. It can be mixed in very small quantities — just a tablespoon of paint in the pot with a little water stirred in until it feels like a fairly thick batter. Half a dozen colours (including white) are plenty; fewer for the very young painter, and once you have got them they last for a long time.

Good paper may be expensive but newspaper, the back of wallpaper or posters—bagged from shops—wrapping paper and corrugated card, are all quite suitable. A big sheet of newspaper is better than a little square of 'good' white paper, especially for a very young child. A useful rule is 'the smaller the child the larger the paper and brushes'. When we can find the time to cut the paper into circles, thin strips,

triangles or just odd shapes the four-five year-olds will find it even more interesting.

Many children love finger painting for which a really thick, creamy paint is needed. Powder paint can be added to various thickeners. Probably the easiest and cheapest is a sort of thick 'custard' made from ordinary flour and water. Put two or more tablespoons of flour into a bowl or an old saucepan. Stir in a little cold water to make a thin paste, then pour on about 600 ml [slightly more than half a litre] of boiling water, stirring all the time. If lumps form allow the mixture to cool a little and then whisk it. It can be thinned down by adding a little more cold water until it feels right to the children. Powder paint mixed with this, in washed out ice cream tubs makes lovely finger paint. It does not keep for very long and is best used on a thick paper or directly on a washable work surface.

Paint can also be used with toothbrushes, cotton reels, cut up vegetables, sponges, in fact almost anything that small hands can grasp. Small house-painting brushes are very popular, especially if mum and dad are doing some decorating. 'Painting' the outside walls with water from a proper paint can, just like dad uses, is lovely too.

It is fascinating to watch their painting develop as they grow. At first we see scribbles, blobs and patches. Later on come stripes, shapes, patterns and a circle with spikes sticking out of it which they may assure us is "You, mummy!" Sometimes there will be a story behind the painting and if we are lucky we may be told what it is all about. More often painting will be a private thing, of absorbing interest while it is being done but completely forgotten a moment later.

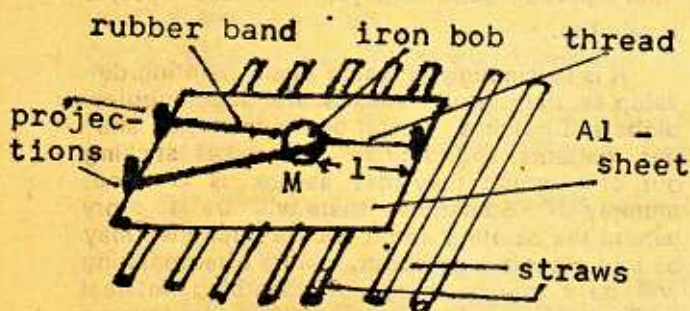
Our job as adults is to give them the time, the space, the materials and the peace to get on with it. We listen when they want to tell us about their painting and we try not to get impatient when it takes twice as long to help them get ready as they actually spend painting. Encourage them to enjoy the clearing up just as much as the painting by letting them help. ●

Studying The Action —Reaction Principle

by Lalit Kishore
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Take an aluminium sheet of 25cm x 15cm and cut the two sides leaving projections of 1 cm x 1 cm as shown. Bend the projections upward. Take a rubber band and slip it over two front projections. At the centre of the rubber band tie a string. The free end of string of length (l) is attached to the projection on the other side of the aluminium sheet so that the rubber band is under tension. Place a stone or a piece of metal of mass (M) at the V—end of the rubber band.

Place the aluminum sheet on twenty equi-spaced drinking straws. Light a match-stick and burn off the string. The rubber band will throw the stone piece in one direction and the aluminium sheet will recoil through some distance (d) in the opposite direction.



Activities :

- (i) Study the change of 'd' with 'M' for a constant 'l'.
- (ii) Study the change of 'd' with 'l' for a constant 'M'.

Teaching Aids For Primary Classes

PATHWAYS requested Mrs. Saroja Sundararajan, Director, Teachers Centre, Springdales School, Pusa Road, New Delhi-5 to share with readers some of her many ideas for the use of inexpensive, easily available material in the making of teaching aids. She sent us this long list of ideas, which have been tested and tried out at their Teachers Centre, and which are frequently used by Teachers of Springdales School. We are sure readers will find these ideas practical and useful. Do try them out and write to us with any suggestions or modifications you think of.

—Editor.

General ideas for teaching aids are listed here. These ideas could be adapted to the level at which the teachers teach.

1. Newspapers and Magazines :

There are a variety of ways in which newspapers and magazines can be used to teach in a class. Here are some of them.

- a) Print the child's name at top of the page. Find other words in the newspaper that start with the same letter as the child's name; cut them and paste them. If possible, the meanings of these words could be found out.
- b) Classification of objects, from cut-out pictures, based on any given attribute.
- c) Building a family with pictures from various magazines.
- d) Story telling with pictures.
- e) Pictures of helpers in the community-cut and paste them; discuss.
- f) Matching pictures of animals with sounds.
- g) Cutting out money amounts from advertisements; matching with actual money; doing Maths problems.
- h) Recognising basic shapes from objects in advertisements.

- i) Make a Jig saw puzzle from a picture.
- j) Drilling of basic concepts-size, location, quantity, time, value etc.
- k) Paragraphing / punctuation.
- l) Pictures showing action words, naming words, etc.
- m) Using a picture-The teacher calls out a word that rhymes with an object in the picture and the children guess the object and the word
- n) Writing titles to stories.
- o) Pictures of men and women in the news.
- p) Collecting news of Science discoveries and Scientists.
- q) Weather charts.
- r) Synonyms and antonyms.
- s) Playing language games.

II. The Flannel Board :

This is a very versatile medium through which the child's mind could be captivated. While preparing this medium for use there are certain points to bear in mind.

- a) The flannel cloth used should be of a colour that does not show dirt or stains.
- b) Material used on the flannel board should be of a contrasting colour, so that the effect is good.
- c) Lettering should be bold and clear.
- d) Pictures should be appealing to a child's mind.

Flannel Boards can either be hung against the wall or mounted and stood up on the table. They should however be placed in a vantage position

where they can be seen by the entire class. Pictures or objects used, can be either backed by coarse sand paper or by felt paper.

Uses of the Flannel Board :

i) Story telling :

Open ended : Suspense should be the keynote in all the story telling sessions, in order that the teacher may be able to hold the attention of the child. The pieces used on the board can be added on one by one until the story reaches a climax. With the fully assembled picture, the children could be asked to make up their own story and narrate it to the class.

Structured : The flash cards are numbered in sequence as the story builds up. When the child narrates the story; this sequential numbering would help him recall the story in the proper order.

ii) Mathematics :

The basic operations, fractions etc., can be taught easily on the board with pictures and fraction bars.

iii) Language :

- a) Vocabulary used can be projected on to the board.
- b) A sentence could be put up with a blank, to be filled in with a suitable word to be chosen from a given set of words.
- c) Association of ideas plays a dual role of helping to remember spellings and meanings at the same time. This can be achieved through a creative presentation called CALLIGRAMS. Calligrams are written in a manner where the style of writing brings out the meaning. Here are a few examples. Creating new calligrams can be real fun for children.

the eye camel

III. A Magnetic Board :

This is more expensive than a Flannel Board, but can be used in exactly the same manner.

IV. Diorama :

These are 3-D aids made out of calendar pictures or illustrations. They are similar to pop-up books, which when opened, pop-up showing a 3-D scene (with depth). These cannot be used for the whole class at a time, but could be used at individual tables for composition writing or narrations.

V. Puppets :

These require a lot of time for preparation and for learning to manipulate. Once this is mastered, the use to which these puppets can be put, is immense.

Finger tips may be converted into 'faces' and easily clothed to form finger puppets, the easiest kind to make. Use these for better effect when telling simple stories. Glove puppets need to be made in advance to suit particular roles. With a little practice, they perform at table top level and lend enchantment to story time. Perhaps senior or middle school pupils could make these for you (with guidance) during Art and Craft or SUPW Classes.

VI. Theme Work :

Any theme can be taken up and activities to strengthen certain concepts can be initiated.

Animal Homes is a theme centering around which a range of activities enables the teacher to build up a whole environment for the child.

Language work, nature study, geography and Maths could be brought in. Geometrical Shapes could be introduced through animal pictures made up of these shapes-either through colouring or through cutting & pasting.

VII. Developing Oral Fluency :

Accuracy in expression and concentration in following instructions are important skills to develop, if one has to acquire oral fluency. A very exciting game that is played here is, titled, "Know your neighbour". The game goes like this. Two players 'A' and 'B' sit side by side at

a table with a partition between them. On the table, in front of each of them, are kept, two sets of identical blocks of different shapes, colours and sizes. 'A' first sets up a structure with those blocks. He then describes very accurately the design, starting from the bottom and going upwards. As the instructions are given, 'B' constructs the design with his blocks. Neither sees the other's structure nor does 'B' ask for explanations. The rest of the class has to watch them with no 'Oohs' or 'Aahs'. When the partition is removed and the designs compared, usually everyone has a hearty laugh. Invariably, the directions given by A are not precise or accurate thereby resulting in a bizarre construction. The shortcomings are discussed and this exercise may either be repeated with the same pair, or done by another pair. Most often, better and better results are achieved at every successive try.

The most common words used are usually a whole range of prepositions, like, 'in front of', 'in the middle of', 'on top of', etc. This could therefore be a good drill for a preposition lesson. 'Picture dictation' is another versatile medium through which language skills can be developed.

VIII. Shadow Play :

Psychomotor skills come into play, when children are allowed to experiment with hand shadows against the wall or on a screen. Creativity is a natural corollary of such an attempt, and learning leaves a deep impact on the minds of the little ones.



EVERYONE A WINNER

by Jose Paul

It is an undisputed fact that success breeds success. Every one, adult or child, will work harder towards success if he feels, at different stages, that he is reaching out towards a desired goal. A child who gets good marks in a class test and is given a word of appreciation by the teacher, usually starts working hard towards achieving greater success in that subject. When the child finds that success is possible in one area, he or she may slowly start trying harder in other subjects also.

For children, a single instance of getting higher marks is not sufficient to spur them on to more success. They need, along with success, appreciation from adults for their achievement. Teachers most often show this appreciation in class. Unfortunately, the system of rewards for success (awards, recognition and prize distribution systems) in many schools is outdated and is not conducive to encouraging the large majority of the students in a school.

Analysing the prize distribution system of many schools, we find that awards are normally given to the first, second and sometimes the third student in academic and non-academic activities. This system of prize distribution is outdated in a democratic set-up. It goes against our national ethos of equal opportunity for all. It perpetuates a hierarchical set-up with recognition given only to the top few. In a class of 40 students only two or three are winners and every year the same children outwit all others. It creates 37 losers. And these losers psychologically accept that they are losers. Some may argue that there is equal opportunity for all. Invariably in every class there are one or two children who have a high intelligence and a better academic performance. This is frequently supported by keen parents and a stimulating environment at home. Such children may remain at the top of their class throughout their school career. The remaining students, faced with this, do not even think of coming near these children and may accept themselves as being inferior.

In a class of 40, are there only two or three students who can be recognised? The gates of recognition must not be closed to anyone. At the same time, the students must work for this recognition; it must not be too easily available. Certain achievement levels can be fixed for each class and for each subject. All those who reach that level can be recognised as 'toppers' in that class. This opens the gates wide enough, giving equal opportunity for all. However the levels are to be fixed in such a way that it is not all that easy for everyone to get in. This takes away all the evils of competition but brings in all the good values of a healthy contest. More and more students will feel capable of achieving high levels by this kind of a change. More and more winners will emerge in each class. Making each child more and more capable in different areas, both academic and non-academic, is what education is all about. Let us make children life-long scholars by this kind of approval rather than labelling so many of them as inferior to others. Let us find ways and means of recognising every child in one way or another. Recognition may be given in the total marks obtained, in each subject, in non-academic areas such as sports, games, athletics, dramatics, art, music, debates, elocution, or in any other field. Let us make each one child a winner and help them to grow confident and eager to learn.

Quite a number of schools have moved in this direction. In the early stages, these schools have faced many doubts and difficulties over implementing such changes. Some of these may have been :

- i. How to fix standards for awards in academics : 90%, 80%, 75%, 60% ?
- ii. Can we have the same standard for children from class I to class XII? In lower classes children score 90% and above easily, while in higher classes often even 70% is difficult. Hence should the standard be different for different class levels ?

iii. When we give awards for each subject, can the same standards be applied in all subjects? Children score more easily in some subjects than others. Then what do we do?

iv. Is it enough to set one standard to recognise the 'toppers'? Is there a need to have a second level in order to encourage low achievers and help them come up?

v. When the number of awards is so big, how can we organise a prize distribution function?

vi. Even when we are recognising a greater number, is it alright or necessary to have the first and second and third prizes also in each class?

vii. Is there a need to recognise those who improved their achievement levels from the past?

viii. How will one set up achievement stan-

dards for sports and games?

ix. How will one set up achievement standards for other co-curricular activities?

These are the various questions that perturbed schools who were changing their patterns of awards. Many of them have found satisfactory answers to these questions and having changed their systems are happy about it. A few schools have even succeeded in finding answers for areas like sports and games and are finding that the standard of sports in the school is coming up. Other schools are probing for ways and means of setting standards in other extra-curricular activities.

All these are positive moves to make every child a winner. Let us hope that more schools and the educational system itself will soon fall in line with the democratic aspirations of this nation thus making everyone a winner in life.

(Contd. from page 2)

An Australian visitor to the Jantar Mantar who had chanced to meet Amit Singh of Class VIII wrote to me praising the efforts of the boy. The boy had made very careful and accurate drawings of the astronomical phenomena connected with the place.

Another interesting study was made by Aunindyo; it was of a Muslim tomb of the Mughal period which had become a Hindu Temple with an 'OM' written across the entrance. Now, it is a library that houses Hindu scriptures!

Chaya Jambholkar's study of "Ugrasen's Baoli" was also an outstanding piece of work.

The children had made detailed maps of Delhi, their colonies and the sites. They had made their projects colourful with many

sketches, designs seen in the monuments and also compared them with modern monuments. They had also discussed if such monuments are worth building now. As usual, the children thoroughly enjoyed making pamphlets, jig-saw puzzles, cross words, maze puzzles, clay and thermocole models.

I feel that it is through such studies undertaken by students of an "impressionable" age that awareness can be created and that vandalism against monuments, public property, wild life and forests can be stopped in the future.

The future of the 'past' is, then, in the hands of this new generation. It is time to lead them on a crusade for saving our environment.

CHITRA SUBRAHMANIAM
Sardar Patel Vidyalaya
New Delhi

(Contd. from page 15)

ANSWERS TO 'HAVE FUN'

Potted Personalities : 1. Robert Browning ; 2. Jane Seymour-mother of Edward VI;
3. Sir Isaac Newton; 4. Edmund Lear ; 5. Pythagoras; 6. Marie Antoinette; 7. Jane Austen;
8. Charles Darwin;

Brain Twisters : 1. 20 days! 2. They travel unequal distances!

HAVE FUN

Potted Personalities

Can you identify the famous men and women described in these rhymes ?

- 1 A poetess, from her Wimpole Street abode,
Published many a melancholy ode.
Who was it who first showed her what hope meant,
And, in the end, contrived her elopement ?
- 2 First recall if you can,
A king who was a much-married man;
Then tell me which one
Of his six wives bore him a son.
- 3 In his garden, a falling apple
Attracted the notice of a mathematician,
And he sat him down to grapple
With the cosmic force that keeps things in position.
- 4 You've all heard, I suppose,
Of the Pobble Who Had No Toes ?
Your next job'll
Be to name the creator of the Pobble.
- 5 "If you want," said this expert, 'my angle
On the subject of the eternal 'triangle',
I think that I could give you quite a lot o' news!
Concerning the good old square on the hypotenuse,"
- 6 "Let the people eat cake
If they haven't any bread."
She who thus jested made a tragic mistake;
Her callousness cost her her head.
- 7 The cult of "Jane"
May seem hard to explain;
But this can truly be said in Jane's defence :
That she shows both "sensibility" and
"sense".
- 8 The "descent of man" :
Explain it if you can !
Who shocked the mid-Victorian villa
By relating mankind to the gorilla ?

Brain Twisters

1. You must have heard this one before.

The *Lilium Giganticum* is a very rare plant. In the botanical gardens, each year, a seed is planted exactly in the centre of a circular pond, 21m in diameter. In due course the plant will appear—little more than a tiny speck on the surface of the water; but it grows so rapidly that each day it covers a total area which is double the area it covered the day before. At the end of 21 days, the plant completely covers the surface of the pond:

How many days does it take to cover half the surface of the pond ?

2. "Let's have a bicycle race," suggested Hari to Shyam.
'Good idea,' said Shyam, "but we have only one bicycle."
"No problem," said Hari. "The road between here and Okhla is perfectly level and has a good surface all the way. There are also milestones all the way. I will start from the first milestone and ride upto the fifth; you can start there and ride up to the tenth. We'll time ourselves with a stopwatch."
"Fine" said Shyam.

The 'race' was however a failure. Can you find the flaw in Hari's plan ?

(Answer on page 14)

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